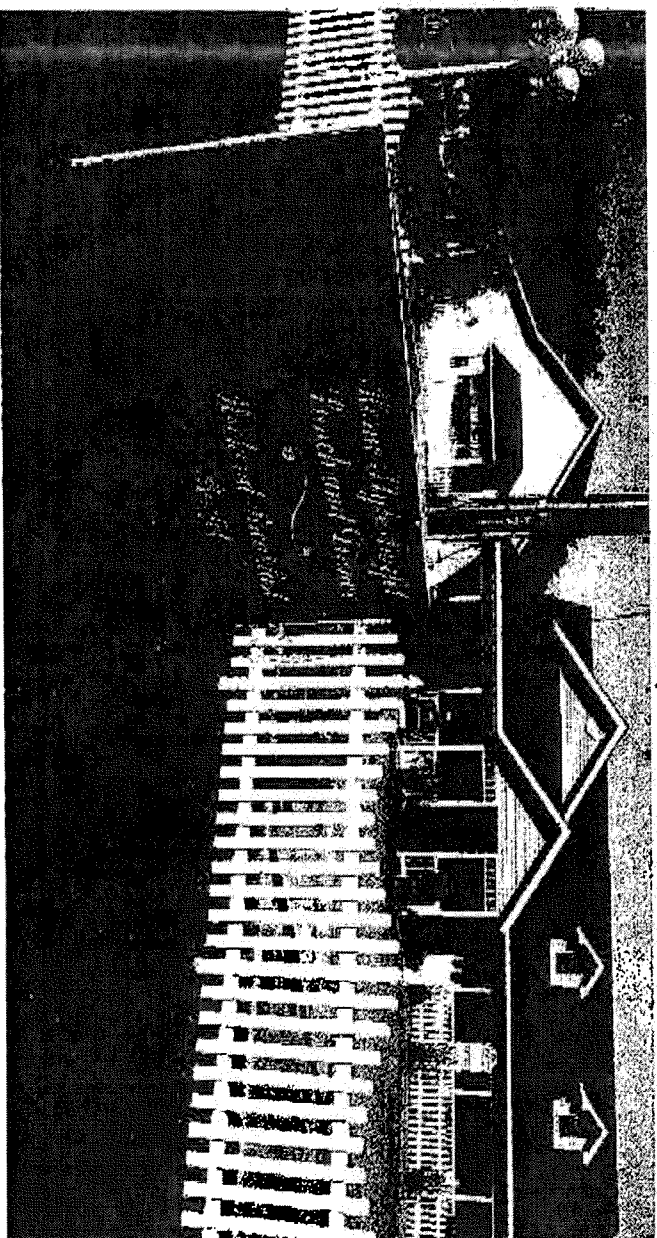


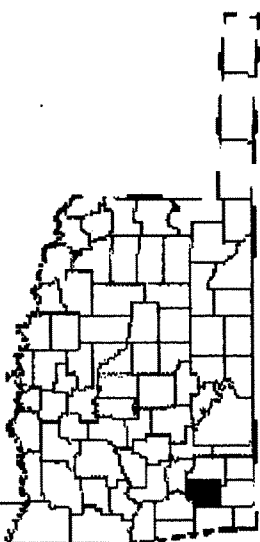
Poultry waste as a possible source of August 2008 *E. coli* outbreak



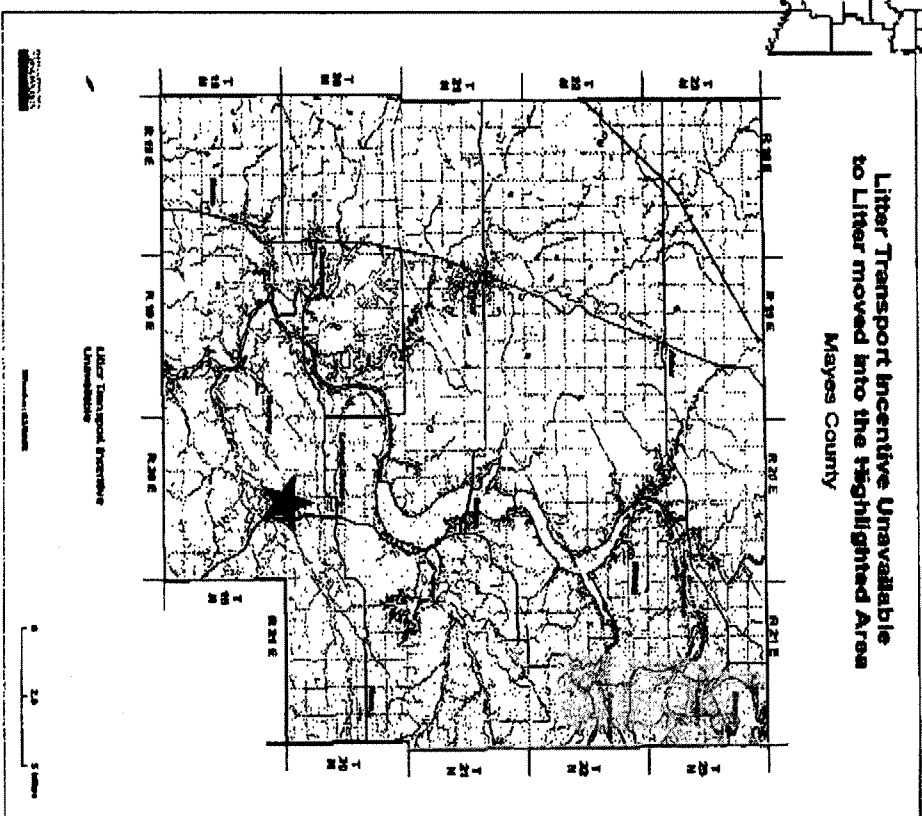
Country Cottage
Restaurant
Locust Grove,
Oklahoma



Country Cottage Restaurant, Locust Grove



- Mayes County
- Fort Gibson Watershed
- Just south of Lake Hudson
- 45 miles due east of Tulsa



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Timeline of Outbreak

□ Aug. 9-10

- Loss of pressure in Locust Grove water supply.
- Country Cottage switches to well water.
- Country Cottage reports that it used the well for at least two hours a day for each of the two days.

□ Aug. 10-24

- Before Aug. 15 - "Probable" or "Suspect" exposures to *E. coli* at Country Cottage Restaurant.
- Aug. 15-24 "laboratory confirmed" exposures to *E. coli* at the restaurant.

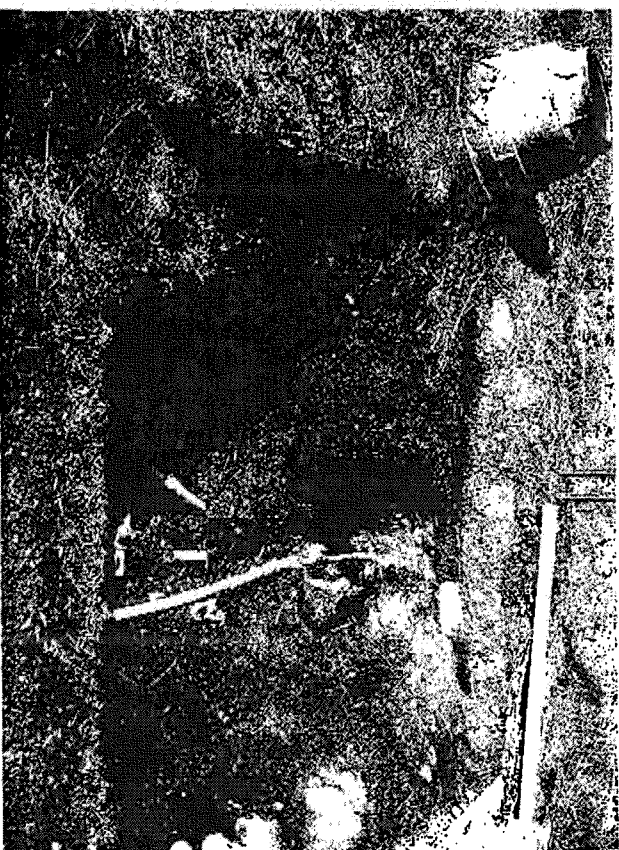
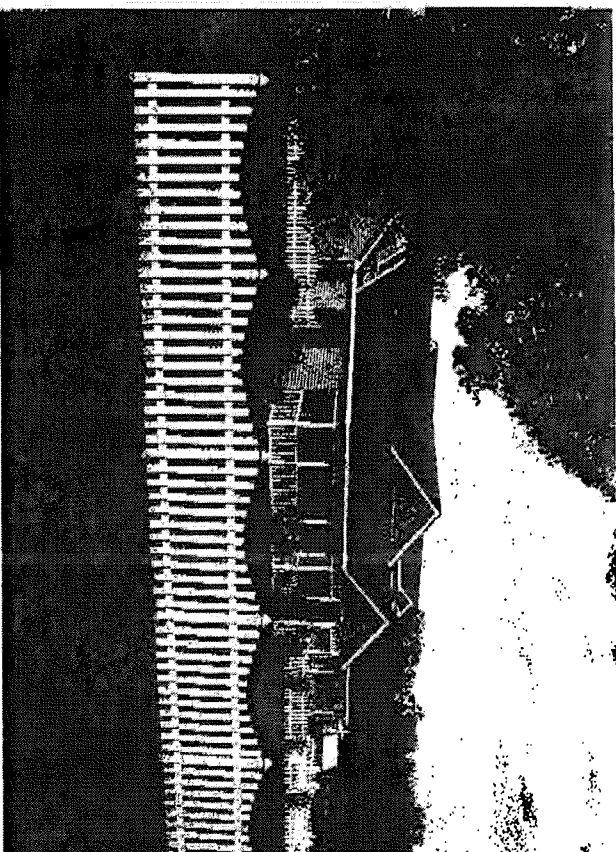


Photo showing plumbing from now disconnected illegal connection between well water and city water. This is how the restaurant switched from city water to well water.

Timeline of Outbreak

- **Aug. 22**
 - OSDH notes "suspicious cluster of illnesses" around Tulsa area.
- **Aug. 23**
 - OSDH inspects Country Cottage. Cited for nine violations. Restaurant throws away all food and reopens.
- **Aug. 24**
 - Chad Ingle of Pryor dies. Ingle ate at CC on Aug. 17.
- **Aug. 25**
 - Restaurant voluntarily closes.

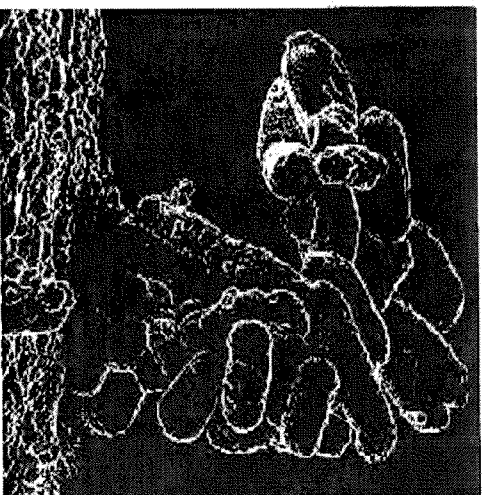


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Timeline of Outbreak

□ Aug. 25

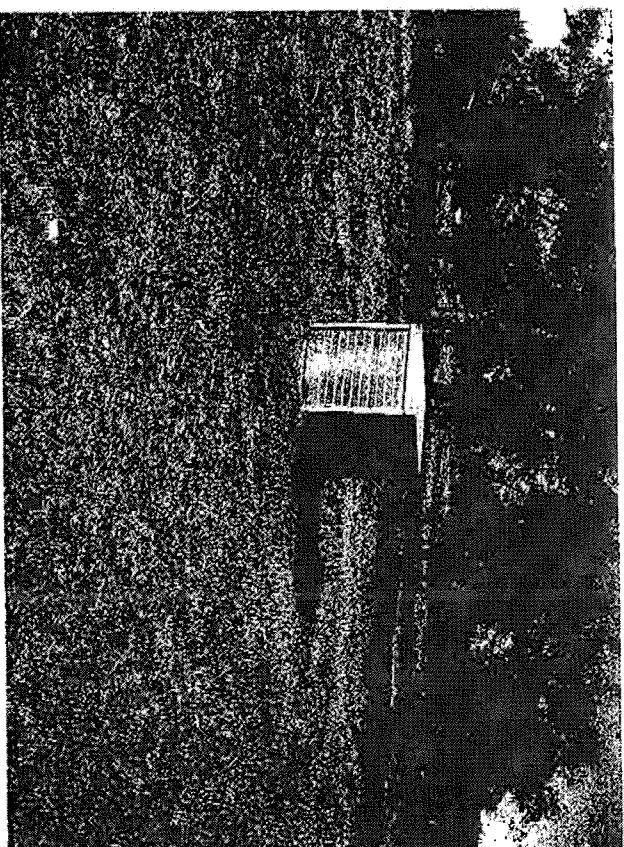
- OSDH confirms one dead and 14 ill in possible *E. coli* outbreak; confirms Country Cottage as possible source.
- DEQ first learns of outbreak through press accounts and goes to inspect water supply. DEQ takes water samples from well.



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Timeline of Outbreak

- **Aug. 28**
 - DEQ completes analysis of water samples from well at Country Cottage.
 - Water samples contain *E. coli*.
 - DEQ sends cultures to OSDH.
- **Aug. 29**
 - DEQ issues press release stating that *E. coli* was found in Country Cottage Well.
- **Aug. 30**
 - OSDH informs press that results from well do not show virulent strains of *E. coli*. Press reports that the well is not a possible source.



View of Country Cottage well house (behind restaurant) looking west.

Timeline of Outbreak

- **Sept. 12**
 - OSDH investigates restaurant again and finds no trace of *E. coli*.
 - Blood from C.C. food handlers reveal no trace of *E. coli* anti-bodies.
- **Sept. 16**
 - OSDH states that the outbreak is over; investigation continues.



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Effects of Outbreak

- ▣ Total known cases: 314
- ▣ In-patient hospitalizations: 72
- ▣ Patients who required dialysis for renal failure: 17
- ▣ Deaths: One
- ▣ People interviewed: 1,843
- ▣ Victims who ate food provided by Country Cottage in Locust Grove: Every known case
- ▣ State and county health workers involved in response and/or inquiry: At least 135

(Source: *Oklahoman*, Oct. 19, "Examining an Outbreak")

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Braylee Beaver, 20 months old, sickened by E. coli O111 after eating at Country Cottage

(Source: *USA Today*, Oct. 8, "Little-known E. coli strain O111 starts gaining notoriety")

Country Cottage Well

□ The well is a possible source of the *E. coli* that caused the outbreak of illnesses.



Rick Austin, DEQ, collects water samples on Nov. 5 from the Country Cottage well at the request of the Centers for Disease Control. CDC told DEQ that they are looking for *E. coli* O111 in the well water.

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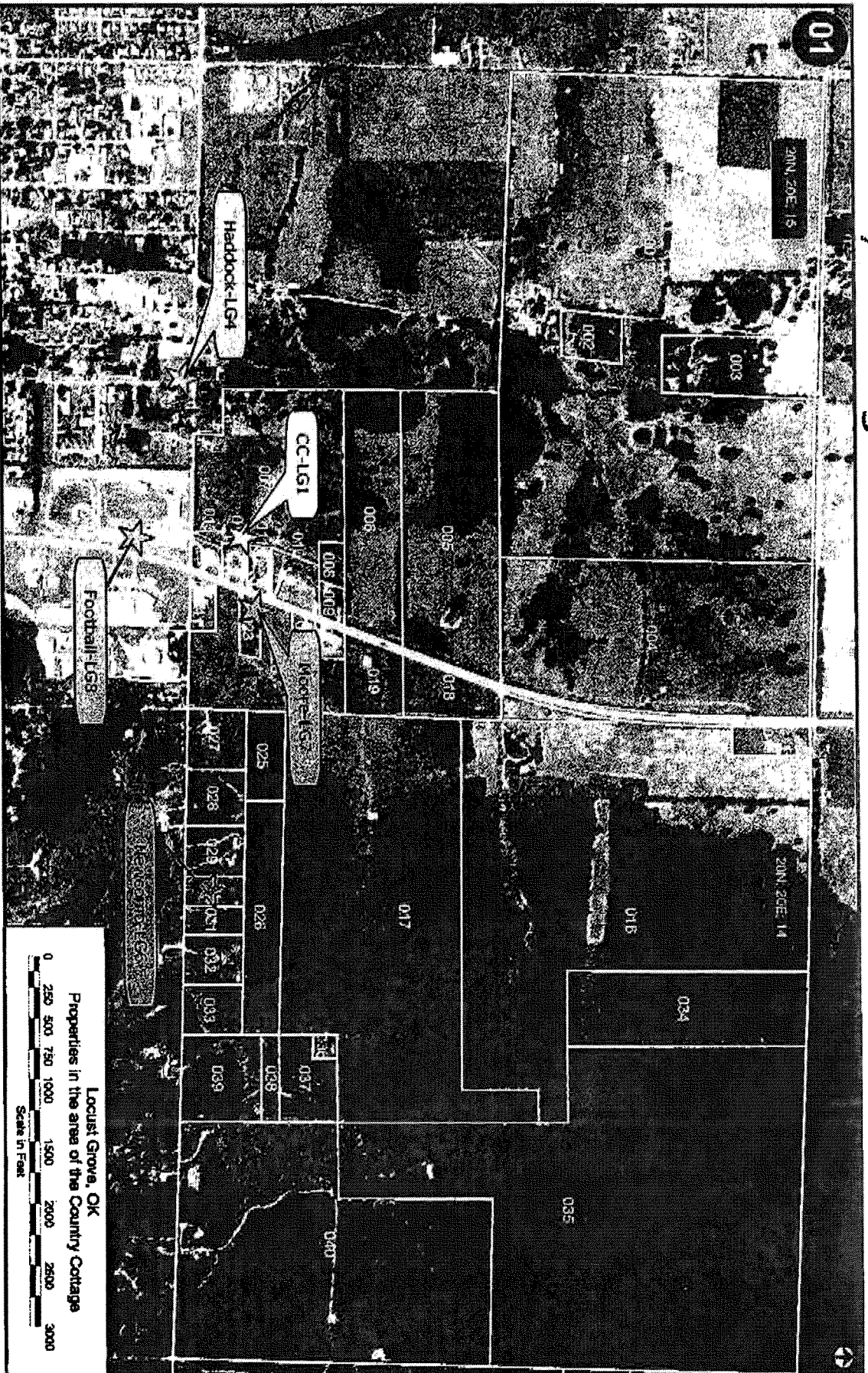
- *E. coli* was not found in the restaurant.
- *E. coli* was found in the well.
- Country Cottage used the well in food preparation on or about Aug. 9-10.
- OSDH agrees that the well is a possible source.
- CDC requested water samples from the well on Nov. 4th and stated that finding *E. coli* in the well "is an interesting finding and supports the possibility that the well could have introduced fecally contaminated water into the restaurant."

Well Contamination Results

DATE	AGENCY	TOTAL COLIFORMS	E. COLI	FECAL COLIFORMS	E. COLI	STAPH. AUREUS
Aug. 27	DEQ	> 200	> 200	NT	NT	"suspect colonies found"
Aug. 29	DEQ	> 240	34	NT	NT	"suspect colonies found"
Sept. 4 (LG1)	OAG	240	20	20	18	NT
Oct. 8 (LG1)	OAG	14	2	14	ND	NT

NT – not tested, ND – not detected, Results in MPN/100mL

Bacterial Contamination Not Limited to Country Cottage Well



Bacteria in Local Groundwater

Location	Date	Agency	Total Colony Count	E. coli Colony Count	E. coli Colony Count	E. coli Colony Count
Moore's Residence (LG7)	Sept. 24	DEQ	613	4	NT	NT
Football Field (LG8)	Sept. 24	DEQ	214	ND	NT	NT
Newcomb Well (LG6)	Oct. 8	OAG	50	30	4	50
Haddock Well (LG4)	Oct. 8	OAG	ND	ND	NT	4
Football Field (LG8)	Nov. 7	OAG	46	ND	8	46

NT – not tested, ND – not detected, Results in MPN/100mL